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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/727,354	11/30/2000	Pirmin Gerhard Muffler	VO-508	3361

7590 08/05/2003

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EXAMINER

ROSSI, JESSICA

ART UNIT	PAPER NUMBER
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1733

13

DATE MAILED: 08/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/727,354

Applicant(s)

MUFLER, PIRMIN GERHARD

Examiner

Jessica L. Rossi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/8/03, Amendment C.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,6,8-10 and 12-23 is/are pending in the application.
- 4a) Of the above claim(s) 13-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,6,8-10 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment dated 7/8/03. Claims 5, 7, and 11 were canceled. Claims 13-23 were added. Claims 2-3, 6, 8-10, and 12-23 are pending.

2. The rejection of claims 2-3 and 5-12 under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art in the specification of the present application in view of the collective teachings of Herklotz (of record) and Marks et al. (of record), as set forth in the previous office action, has been withdrawn due to the discovery of better prior art upon further searching.

Election/Restrictions

3. Newly submitted claims 13-23 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

The claims rejected in the previous office actions are directed to a method for applying a thin-walled flat substrate to an assembly carrier with a protective layer while the newly submitted claims are directed to an apparatus. The apparatus could be used in a method for applying a variety of substrates to a variety of objects having no protective layer thereon, which could be found in various subclasses and their corresponding subclasses, thereby placing serious burden on the examiner.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 13-23 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

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Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 2-3, 6, 8-10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art in the specification of the present application in view of the collective teachings of Bennett et al. (US 3554834) and Kitahiro (JP 55-2020; abstract only).

It is noted that the present invention is directed to eliminating air pockets between a flexible substrate and a protective layer, which is placed on a carrier (support), during lamination of these layers. Elimination of the air pockets takes place by laying the substrate over the entire area of the protective layer from a first contact point towards an edge of the substrate (bottom of p. 3 – top of p. 4).

With respect to claim 10, the Admitted Prior Art teaches it is known to apply a thin-walled flat, flexible substrate to an assembly carrier, which has a protective layer thereon (See MPEP 2129). The Admitted Prior Art also acknowledges that the presence of the protective layer between the substrate and carrier results in the occurrence of air pockets between the substrate and protective layer during lamination (p. 3, 1st paragraph). However, the Admitted Prior Art is silent as to arranging the substrate at a spacing and curved in a convex manner, laminating the substrate over the protective layer from a contact point towards an edge of the substrate, the substrate being arched and detached from a carrying body by controlling a pressure of a medium in a cavity between the substrate and the carrying body, and the carrier body movable relative to the assembly carrier and including a portion carrying the substrate wherein

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the portion has a plurality of flow apertures comprising at least one duct configured as an overpressure line and circumferential grooves configured as negative pressure lines.

It is known in a variety of arts to eliminate air pockets during lamination of a flexible substrate to a layer, which is placed on a support, by arranging the substrate at a spacing and curved in a convex manner, contacting the layer with the substrate, and laying the substrate over the layer from a contact point towards an edge of the substrate where the substrate is arched and detached from a carrying body by controlling a pressure of a medium in a cavity between the substrate and the carrying body, as taught by the collective teachings of Bennett (Figures 2-3; column 1, lines 37-40; column 2, lines 3, lines 37-41; column 4, lines 14-22 and 28-30) and Kitahiro (Figure 2; abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to laminate the flexible substrate to the protective layer of the Admitted Prior Art by arranging the substrate at a spacing and curved in a convex manner, contacting the protective layer with the substrate, and laying the substrate over the protective layer from a contact point towards an edge of the substrate where the substrate is arched and detached from a carrying body by controlling a pressure of a medium in a cavity between the substrate and the carrying body because such a lamination technique is known, as taught by the collective teachings of Bennett and Kitahiro, and this would prevent air bubble formation during lamination of the substrate and protective layer (Bennett; column 4, lines 14-30).

Bennett and Kitahiro also teach the carrying body being movable relative to the support and including a portion carrying the substrate wherein the portion has a plurality of flow apertures for accommodating a pressure medium wherein the flow apertures include at least one

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centrally formed duct configured as an overpressure line (Bennett - 19a in Figure 3; column 2, line 50 – column 3, line 3; column 3, lines 65-70; Kitahiro - 17 in Figure 2 and abstract) and circumferential grooves configured as negative pressure lines (Bennett - 20a-c in Figure 3 and column 2, line 5 – column 3, line 3; Kitahiro - 15 in Figure 2 and abstract). It would have been obvious to use a moveable carrying body having a portion for carrying the substrate comprising a configuration of overpressure and negative pressure lines as claimed in the present invention because such is known, as taught by the collective teachings of Bennett and Kitahiro, and this allows for temporary attachment of the substrate to the carrying body and its subsequent release therefrom upon application to the assembly carrier.

Regarding claim 2, Bennett and Kitahiro teach the substrate applying a constant pressure on the layer.

Regarding claims 3 and 9, Bennett and Kitahiro teach the pressure medium being applied to a side of the substrate remote from the layer.

Regarding claim 6, Bennett and Kitahiro teach the portion being planar.

Regarding claims 8 and 12, selection of a particular cross-section for the portion would have been within purview of the skilled artisan at the time the invention was made. However, Kitahiro teaches the portion, which is cylindrical, being circular in cross-section when viewed from above (abstract).

Response to Arguments

6. Applicant's arguments with respect to claim 10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **703-305-5419**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W. Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jessica L. Rossi
Patent Examiner
Art Unit 1733



jl
July 30, 2003


Michael W. Ball
Supervisory Patent Examiner
Technology Center 1700